

A Success Story at Southwest Regional Jail Correctional Facility at Duffield

This project, capitalized by Energize Virginia, involved the installation of a solar thermal energy system utilizing solar thermal collectors placed on the roof of Duffield Jail that houses 500 inmates. The collectors face south, with no shading occurring above a solar angle of 5 degrees above the horizon. The system is an active, closed loop using a non-toxic 33% solution of inhibited propylene glycol and de-ionized water. Glycol flowing through the collectors captures solar energy, and this energy is transferred via heat exchangers to heat water used in the jail's operations. Following the energy transfer, the continuously pumped glycol is returned to the collectors on the roof.

- Project Cost \$465,749
- Annual Savings - \$54,000 (the simple payback is estimated at 8.6 years)
- 72 - 4' x 10' panels with aluminum racking that will produce 1.78 million BTU each day
- Jobs created were only during the time the project was taking place: 8 construction jobs and 5 design team jobs for a total of 13 jobs.

This project, with the ribbon cutting ceremony at the end of May 2013, has been able to provide actual results after being operational for a year.

